



**Texas Southwest Machinery, Inc.**  
[www.texasouthwest.com](http://www.texasouthwest.com)  
800-242-3965

## **CNC Single Spindle Drill Line The Ocean Avenger**



## **OCEAN AVENGER BEAM DRILL LINE OVERVIEW**

Ocean Machinery is the leading supplier of CNC Beam Lines to Small and Medium Fabricators in the USA, supplying and installing more than 450 drill lines around the world since 2001.

Having struggled to get immediate parts supply and after sales support from the European manufacturers, Ocean Machinery partnered with Peddinghaus to manufacture the Ocean Avenger – a fully [CNC Beam Drill Line](#) made right here in the USA.

### **MECHANICAL DESIGN OF THE OCEAN AVENGER BEAM DRILL**



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### REDUCED FOOTPRINT

- The Ocean Avenger [Beam Drill Line](#) is an extremely space efficient beam processing solution for small to medium fabricators.
- The standard beam line is 60ft long by 11ft wide, and takes up no more space than regular mag drilling. It will completely eliminate your layout and mag drill trestles, freeing up vital factory floor space.
- The 7ft wide table is used for storing beams ready to be processed



### SPACE EFFICIENT

- Unlike conventional beam drill lines that employ in and out conveyors feeding the material through a stationary machine, the Ocean Avenger [Beam Drill Line](#) employs a fixed table and a moving drilling platform, effectively reducing the amount of floor space needed, by 50%
- The moving drilling platform is cantilevered off the side of the table on high precision machine guide rails, and does not touch the floor



### EXCEPTIONAL ACCURACY X - AXIS

- The positioning of the drill on the X-axis is accomplished by an exceptionally accurate rack and pinion measuring system, providing an accuracy of up to 1/32".
- This positive engagement system completely eliminates slippage and ensures outstanding accuracy.
- This accuracy translates into faster erection in the field and eliminates charge backs for holes drilled in the wrong position



### EXCEPTIONAL ACCURACY Y - AXIS

- The Y-axis is controlled by an exceptionally accurate ball screw arrangement that moves the drill into position.
- The speed of this movement is far superior to that found on other similar machines and this ensures faster processing and lower unit costs, the secret to profitable fabricating



### ROBUST AND ACCURATE REFERENCING SYSTEM

- The Ocean Avenger [Beam Drill Line](#) utilizes an exceptionally accurate and durable optical zero reference system.
- The Optical sensor detects the end of the beam and thereby sets the zero reference
- This system is infinitely superior to the vulnerable and often damaged mechanical probes used by other manufacturers.



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### ROBUST HYDRAULIC CLAMP

- Once the optical sensor has detected the zero reference, a vertical clamp clamps the profile to the table and fast drive motors quickly position the drill to drill the first hole.
- The clamping force of the hydraulic clamp resists the lateral force of the drill, and on the Ocean Avenger, our ability to drill the thickest jumbo beam sets us apart for the imported machines.
- The drill rotation and feed rate are automatically set by the software and are determined by the drill diameter and grade of steel being drilled.



### STRONG INDUSTRIAL DRILL MOTORS

- Our drill motors are the industry standard and are found on much larger machines.
- These strong motors ensure the fastest feed rates and the largest drill diameters of any single spindle beam drill line on the market today.



### DUAL COOLANT SYSTEM

- The Ocean Avenger [Beam Drill Line](#) sets new standards of efficiency in the small to medium beam fabricating market with the inclusion of two types of coolant system on the beam line.
- The optional through-the-tool-coolant system is so superior to the systems found on other machines that it really is no contest.
- The Ocean Avenger outperforms and out-drills the competition with ease
- The dual system is superbly engineered and features an onboard compressor.
- All mechanical components are easy to reach for fast maintenance and cleaning.



### THROUGH-THE-TOOL-COOLANT DRILLS

- The Ocean Avenger [Beam Drill Line](#) achieves its outstanding drilling efficiency from the through-the-tool-coolant system.
- This system ensures that the tool is always kept cool, even when drilling the thickest Jumbo beams, or when drilling hardened steel.
- This through-the-tool-coolant system also ensures exceptional tool life and allows much faster drill feed rates than other machines



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### **SUPERIOR WEB CENTER LINE PROBE**

- The Ocean Avenge [Beam Drill Line](#) has a markedly superior web probe designed to be able to probe the entire range of US steel profiles, including jumbo beams.
- The probe automatically detects the web centerline and places the flange holes equidistant on either side of the web center line.
- Moreover, the Ocean Avenger probe is equipped with an auto-air-blast feature that automatically shoots out a highly compressed air blast that cleans the web of any debris or chips that could give the sensor an erroneous reading.
- This ensures accurate web probing every time, something that is not possible on competitive machines.
- Additionally, the European machines are not compatible with the US profiles and utilizing the web sensor on large profiles can permanently damage the machine.
- The European machines cannot probe flange heights of over 12 inches, or flange thicknesses of over 1", tremendously limiting the fabricating capacity of the fabricator.



### **EXCEPTIONAL VERSATILITY**

This amazing [Beam Drill Line](#) can process steel sections of any thickness and makes quick work of Jumbo beams.

This allows the small fabricator to take on jobs that hew would normally have had to turn down

The beam line processes:

- beams
- angle
- channel
- base plates
- square and rectangular tube
- round tube and pipe

ensuring that the fabricator can tackle the widest variety of of fabricating projects.

## **OPERATING THE CNC CONTROLLER**

### **SIEMENS 840D CNC CONTROLLER**

- The heart of the Ocean Avenger is the exceptionally rugged Siemens 840D CNC controller especially designed for harsh industrial conditions
- The Siemens 840D is the respected throughout the world as the pinnacle of CNC controllers and is normally found on machines costing significantly more than the Ocean Avenger
- The entire system, itself is designed and built by Siemens and all the components are off the shelf Siemens parts, readily available anywhere in the world with overnight





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delivery.

- This makes the Ocean Avenger significantly faster and easier to service compared to the European machines where the components are from a wide variety of suppliers and are not available in the USA.

### **DESIGNED FOR ALL OPERATING CONDITIONS**

- The Ocean Avenger includes an integrated Air Conditioning Unit for the computer cabinet as standard equipment.
- This ensures optimum operating temperature for the CNC control, irrespective of how hot or cold your ambient temperature might get.
- Competitive machines have been severely compromised by harsh ambient operating conditions

### **EASY TO USE SIEMENS CNC CONTROL**

- The exceptionally rugged Siemens CNC controller is world renowned as the Cadillac of controllers and is used throughout the world.
- Siemens has factory trained service techs in all major territories who are intimately familiar with this controller and this will ensure that downtime is kept to a minimum.
- The interface with the Siemens controller is through the industry standard Peddimat Software, and is simple to program and operate.
- The beam line can be programmed manually at the cabinet, or can be operated directly from imported CAD detailed profiles.
- Operators without prior computer experience have been taught in only hours how to successfully operate this simple machine.



### **DIRECT DOWNLOAD FROM CAD DETAILING PROGRAMS**

- The Ocean Avenger Beam Drill Line can be programmed manually at the machine cabinet or can be operated by downloading already detailed parts from your steel detailers CAD detailing program.
- The optional Peddinghaus Peddimat software has been the industry standard in the USA for over 20 years and the major steel detailing software companies have all integrated their detailing software with Peddimat.
- Integration with your steel detailer's detailing software is seamless and downloading already detailed parts to your Ocean Avenger Beam Line is simple and fast
- This is a simple operation using readily available and inexpensive floppy disks that are inserted in a slot above the machine keyboard.



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#### **CNC PRECISION WITH MANUAL OVERRIDE**

- The Ocean Avenger Beam Line by Peddinghaus utilizes the best of both worlds.
- It uses the automatic CNC to set the drill RPM and feed rate at the optimum conditions, but it also has simple graduated manual control buttons to override both drill rotation and feed on the fly
- This might be necessary when hitting unexpected hard inclusions or when drilling with a dull drill bit
- This versatility is unmatched on competitive machines

#### **SAFETY - DESIGNED TO US OSHA AND EUROPEAN CE SPECIFICATIONS**



#### **EXCEEDS WORLDWIDE SAFETY REQUIREMENTS**

- The Ocean Avenger Beam Drill Line is an inherently safe machine and moreover it is designed to meet or exceed the most exacting worldwide safety requirements
- All our export machines are fully CE compliant and carry the CE logo on the nameplate

